

REMARKS

Status of Claims :

Claims 1-15 and 17-33 are present for examination.

Drawing Objections:

The drawings have been objected for the reasons stated in paragraphs 4-7 of the outstanding office action. By way of the instant amendment, the written description has been amended to confirm to the originally filed drawings. Applicant has amended the written description to remove the basis of the various drawing objections in such a manner that NO drawing changes are needed.

In conformance with paragraph 3 of the office action, applicant will supply formal drawings upon notice of allowable subject matter.

Prior Art Rejection:

Claims 1-15 and 17-33 stand rejected under 35 U.S.C. § 103 as obvious over Ahuja.

With regard to all of applicant's claims, the examiner admits that Ahuja does not disclose numerous specifically recited limitations of applicants' claims. For example, with regard to claim 1, the examiner states that Ahuja does not disclose all of the variable sin the claims. However, the examiner maintains that applicants' claims would have been obvious since a person of skill in the art would have recognized that all of the claimed variables are similarly applied to reach the same result. Further, the examiner states that one would have been motivated to modify Ahuja in order to reduce AORT citeing column 2, lines 32-36 of Ahuja.

The examiner's rejections are respectfully traversed.

It is true that Ahuja teaches an attempt to minimize the total response time as, for example taught at column 5, lines 30-40 and stated also at column 2, lines 32-36. Ahuja states that the total response time includes the total end-to-end delay which includes

connection establishment, network delay and server response time. The client agents of Ahuja server to minimize this total delay based on the average response time of each server.

However, applicants' are not claiming the broad concept of minimizing total response time. Rather, applicants' claim 1, for example, is specifically directed to a particular manner and means for achieving the overall objective. Of course, the overall objective is not new and many attempts have been made over the years to reduce total response time as discussed, for example, in the background section of applicants' specification. Ahuja's arrangement as shown in Ahuja's Fig. 3A is one such attempt using a "dispatch mechanism" associated with each client. While one may of course be motivated to reduce overall response time, such a broad and generalized motivation does not preclude all innovation in the field such that any specific apparatus or mechanism for achieving such a goal is automatically rendered obvious simply because the overall goal is itself well known. More particularly, simply because one of skill in the art would know certain ways or parameter to reduce overall response time, and be motivate to always improve the system by further reducing response time, such knowledge and motivation does not preclude all patentable advances in the art. The test of obviousness is not whether the overall objective of a claimed invention is within the overall teaching of a prior art patent, but rather whether the claimed limitations, when taken as a whole, would have been obvious to a person of ordinary skill in the art at the time the invention was made. (35 U.S.C. § 103).

With regard to applicants' claim 1, there is specifically recited the customer load parameter c_j ; the priority value p_j for customer C_j ; the parameter u_{ij} which represents a fraction of request coming to customer C_i from region G_j , and the parameter $a_{i,j,k}$ representing a mapping of a fraction of requests coming to customer C_i form region G_j that have been redirected to server S_k . There is further recited the parameter s_k representing the load capacity of server S_k . The above enumerated limitations as appearing in applicants' claim 1 are NOT disclosed in the prior art applied Ahuja reference. To say that such detailed limitations (as defined and expressed in the formula appearing in applicants' claim 1) are obvious simply because Ahuja shows OTHER limitations is outside the bounds of any reasonable interpretation of obviousness within the meaning of 35 U.S.C. § 103. Quite simply, the PTO has not made out a *prima facie* case of obviousness within the provisions of 35 U.S.C. § 103.

The examiner has applied similar reasoning in rejecting all of applicants' claims. As a further example, in connection with claim 10, the examiner admits that Ahuja does not disclose:

generating a plurality of sorted lists by sorting C_i values in increasing order of c_i , sorting $\langle C_i, G_j \rangle$ pairs in increasing order of $u_{i,j}$, sorting S_k values in increasing order of $sdel_k$, and sorting $\langle G_j, S_k \rangle$ pairs in increasing order of $ndel_{j,k}$;

starting with a top-most, smallest value item in each list, identifying comparable smallest-value items from the other lists to generate a plurality of $\langle C_i, G_j, S_k \rangle$ triples equivalent to the number of sorted lists;

selecting from the plurality of $\langle C_i, G_j, S_k \rangle$ triples, the $\langle C_i, G_j, S_k \rangle$ triple with the smallest $u_{i,j} \times c_i \times (sdel_k + ndel_{j,k})$ value;

assigning to a server S_k of the selected $\langle C_i, G_j, S_k \rangle$ triple a remaining load from the $\langle C_i, G_j \rangle$ pair; and

repeating the heuristic algorithm starting with generating the plurality of sorted lists, taking into account the changes in the values of the C_i values and the $\langle C_i, G_j \rangle$ pairs as a result of the previous server assignment during each iteration, until the load from all $\langle C_i, G_j \rangle$ pairs has been assigned to a server S_k ;

wherein if, during any iteration of the heuristic algorithm, the load capacity of the server S_k is not sufficient to handle the remaining load, the remaining load capacity of the server S_k is assigned to some of the load of the $\langle C_i, G_j \rangle$ pair, and an unassigned portion of the load from the $\langle C_i, G_j \rangle$ pair is reinserted into the iterative process.

The limitations admittedly NOT disclosed in Ahuja are essentially EVERY limitation contained in the body of applicants' claim 10. To justify this rejection the examiner states:

However, it would have been obvious for one of ordinary skill in the art at the time of the invention to use the heuristic algorithm in any form in order to balance the load of the system and minimize AORT.

To be sure, applicants are not claiming the broad concept of using ANY heuristic algorithm but rather have set forth a specific and well defined heuristic algorithm that is

recited as part of a dependent claim ultimately depending on and incorporating therein the recitations of claim 1. The broad teaching of a desire to balance loads can not preclude patents on any and all improvements that achieve the load balancing objective. In accordance with the statute (35 U.S.C. § 103) the references must make obvious applicants invention when taken as a whole. Since admittedly the prior art does not teach applicants' claimed limitations, the mere teaching of a generalized desire to balance loads will not establish obviousness of all improvement in the art that balance loads. The reference must specifically address (or make obvious by a combination of references) the specific claimed limitations. Since the rejection fails to teach or make obvious applicants' specifically recited limitations, the PTO has not made out a *prima facie* case of obviousness within the provisions of 35 U.S.C. § 103.

The arguments set forth above with respect to claims 1 and 10 apply to all rejected claims, as the essence of the examiner's rejection is the same and the discussion of claims 1 and 10 is set forth merely by way of example. Thus, it is submitted that as to all rejected claims, the PTO has not made out a *prima facie* case of obviousness within the provisions of 35 U.S.C. § 103.

Conclusions:

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.


The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-0872. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-0872. If any extensions of time are needed for timely acceptance of

papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-0872.

Respectfully submitted,

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By 

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